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ILLINOIS STATE GEOLOGICAL SURVEY
NATURAL RESOURCES BUILDING
PEABODY EAST OF SOUTH SIXTH
URBANA, ILLINOIS 61801
TELEPHONE 217 344-1481
JOHN C. FRYE, CHIEF

115 South Washington Street
Naperville, Illinois 60540
June 25, 1970

Mr. Eugene P. Theios, Director
Division of Environmental Health
Lake County Health Department
1515 Washington Street
Waukegan, Illinois 60085

Dear Mr. Theios:

This is in response to your letter of June 22, 1970 requesting a description of the hydrogeology in the vicinity of a proposed refuse disposal site in the northwest corner of Sec. 31, T.45N., R.12E., Lake County, Illinois.

The site was visited on June 22, 1970. The topography in the northwest corner of Section 31 is gently rolling and there were no excavations or exposures of the near surface materials observed. Regional maps in the files of the Illinois State Geological Survey indicate that the glacial drift in this area is approximately 190 feet thick. Records of water wells which are on file with the Geological Survey show that this glacial drift is predominantly fine textured and relatively impermeable, particularly in its upper part, but that thin bands of sand and gravel may be present. These records are not completely reliable and should be confirmed by borings on the site.

Based on the topographic maps (U.S. Geological Survey, Libertyville quadrangle) and on observations made during the site visit, it appears that surface water drains from this site

to the south. This drainage is very poorly integrated and swamps and standing water are present in the lower parts of this quarter section. Ground-water levels over most of the area are expected to be within 5 feet of the ground surface and the predominant direction of ground-water movement is probably downward.

Assuming that the materials in the upper part of the drift are relatively impermeable, refuse disposed of at this site is not likely to introduce dissolved solids into the ground-water reservoir. If permeable beds are encountered in the filling operation they should be covered with a compacted earth blanket. Surface drainage in this area is poor and flooding may be a problem. If refuse disposal operations are initiated, steps should be taken to avoid polluting the surface waters.

Yours truly,

George M. Hughes
Associate Geologist
Northeastern Illinois Office
Section of Ground Water Geology
and Geophysical Exploration

cc: C. W. Klassen
Springfield, Ill.